Operational Risk and the American Way of Warfare

A Monograph
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AY 2011-002

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 074-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	20-10-2011	SAMS Monograph January-December 2011

4. TITLE AND SUBTITLE
Operational Risk and the American Way of Warfare

5. FUNDING NUMBERS

6. AUTHOR(S)
Major Jon W. Meredith, United States Army

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
School of Advanced Military Studies (SAMS)
250 Gibbon Avenue
Fort Leavenworth, KS 66027-2134

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Command and General Staff College
731 McClellan Avenue
Fort Leavenworth, KS 66027-1350

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT ***(Maximum 200 Words)***

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This study explores American operational doctrine from 1949 to present to identify the risk tendencies of modern U.S. ground forces and their roots. The monograph examines two case studies of X Corps' advance in Korea during the fall of 1950 to test the tendencies in the doctrine and the risk model. The case studies examine one campaign from two perspectives. The purpose is to examine how two different formations dealt with similar terrain, missions, and risk.

14. SUBJECT TERMS
Operational Risk, Operational Risk Model, Planning, Guidance, Terrain, Self-Knowledge, Korea, X Corps

15. NUMBER OF PAGES
55

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Major Jon W. Meredith

Title of Monograph: Operational Risk and the American Way of Warfare

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Abstract

OPERATIONAL RISK AND THE AMERICAN WAY OF WARFARE by Major Jon W. Meredith, U.S. Army, 55 pages

This monograph examines operational risk in the United States Army and the tendency to subordinate risk because of an institutional focus on aggression, offensive action to seize the initiative, and a reliance on firepower. The tendencies of the American way of warfare compel operational risk acceptance without properly integrating risk into operational planning. U.S. doctrine references risk in many locations, but never really defines it in a useful way or links it to operational purpose and decision-making. The purpose of this monograph is threefold. First, it suggests a model to help planners better understand operational risk. Secondly, it proposes a better definition for operational risk. Lastly, it points out the vulnerabilities the current thinking about risk has caused.

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TABLE OF CONTENTS

I. INTRODUCTION

Surprise is the most vital element for success in war.
— Douglas MacArthur, *Reminiscences*

The morning of 27 November 1950 was bitterly cold in northwest Korea. The temperature had dropped overnight to below zero and the wind screamed across the Chosin Reservoir freezing men and equipment. On the east side of the reservoir around Yudam-ni, the vanguard of X U.S. Corps was coming to life and preparing to attack.[1] The 2nd Battalion, 5th Marines had passed through elements of the 7th Marine Regiment. The 2/5 Marines was the lead element of an attack by X Corps to the northwest meant to envelope the North Korea Army units opposing the U.S. Eighth Army to the west.[2] On the western side of the reservoir, the lead elements of the 7th Infantry Division, the 31st Regimental Combat Team, were spread out over a nine-mile front. Both units were confident they would continue to attack, envelope the remaining North Korea Army units, reach the Yalu River, and end the war by Christmas. In the hills around the Chosin Reservoir and down the length of the seventy-eight-mile road leading to Hungnam harbor, six battle hardened Chinese Infantry Divisions of the Chinese People's Volunteer Army (CPV) were moving in to position to attack with six more on the way.[3] Over the course of the next week, the Marines and soldiers around the Chosin Reservoir would continue to attack, but they would be attacking south and fighting for their lives. 78 miles of unimproved one lane road separated them from escape. X Corps units were spread all over northwest Korea. How could this

[1]See Appendix A.

[2]Headquarters X Corps Command Report, "Special Report on Chosin Reservoir, 27 Nov to 10 Dec 50. 9."

[3]Billy C. Mossman, *Ebb and Flow, Nov. 1950-July 1951 - United States Army in the Korean War* (Washington, DC: Center of Military History, 1990), 95.

have happened? Did the staff understand the risks and just fail to articulate and act on them? How could a commander incur this much risk and why did he do it?

Risk is inherent in every military operation. Risk is present anytime something moves, something changes, or an order is given. Risk grows every time an army interacts with the enemy. Every decision comes with risk and opportunity. The U.S. military has spent a great amount of time and effort studying how to identify, assess, and determine acceptability of, control and how to control risk. It has not spent a comparable time understanding how to identify or mitigate operational risk. This monograph defines operational risk as any operational factor or decision made that puts the achievement of strategic goals in jeopardy. There is not currently any construct or method in U.S. doctrine or to address operational risk. Why would there be?

Risk mitigation is largely a tactical action in the U.S. military. In the 1991 Gulf War, the U.S. lost more casualties to friendly fire and accidents than they lost to enemy action. The result of the overwhelming victory and the accidental deaths was a focus on tactical risk mitigation. The new risk mitigation focus worked extremely well. Tactical risk mitigation became part of U.S. military culture. Leaders conduct risk assessments for every training event and every operations order. On the surface, the risk management process seems to work well on a tactical level. That conclusion however, fails to account for the entire context. The cumulative effect is one of operational complacency. The words risk and operational appear together only once in U.S. doctrine, and the term is not clearly defined.[4]

The combatants the U.S. faced since 1991 have been second rate at best. The former Iraqi Army was a paper tiger. The U.S. dealt with Al Qaedea and the Taliban handily on the battlefield. America has now been in combat for the longest period in its history, but with comparatively few

[4]U.S. Department of the Army, Field Manual (FM) 5-0, *The Operations Process* (Washington, DC: Government Printing Office, 2010), 6-19.

casualties. The current conflicts appear to have almost no operational risk. The tactical risk is constant and has become the focus. This focus had largely come at the cost of any operational thinking about risk. The operational risk in the current fight is not easily discernible because it seems more political and social than military. The U.S. military is not in danger of being defeated militarily on the battlefield. Has the culture of tactical risk reduction, a second rate enemy, and a lack of clear operational risk caused planners to lose sight of higher level risk? Operational risk is present in U.S. doctrine, but ill defined and not properly integrated. Was it always this way?

The U.S. X Corps in Korea in 1950 believed the Chinese would not attack and that its operational risk was minor. American airpower would stop any Chinese attack if one did occur. The risk level for X Corps however, was increasing daily. The Chinese were actively working to understand their risks and mitigate them through operational and tactical movement and maneuver. Both sides were fighting on the same terrain, both attacking, and both had different answers for mitigating risk and winning. X Corps' answers were airpower and logistics, the same answers the U.S. relies on today.

The traditional answers for the U.S. may not work in the future as the politics, budgets, and demands of warfare change. The current doctrine is rife with the phrase "unacceptable level of risk." Commanders understand that sometimes the decision of what is acceptable and unacceptable is not up to them. If a commander decides a risk is too high, he will usually ask for more units, close air support, artillery etc. What happens when getting more is no longer feasible?

The American way of warfare based on offensive action and the seizure of the initiative has caused an overreliance on firepower to obviate operational risk. When American commanders face risk, they tend to immediately seek an increase in firepower. More close air support, more artillery, or more reinforcements are the traditional American answers to risk. This addiction to annihilation through firepower has come with a high cost. The culture of annihilation through firepower and aggression has significantly reduced the ability of U.S. commanders to consider

other alternatives. Maneuver, in the American way of warfare, is to gain a positional advantage to bring firepower to bear. The problem with this mindset is that it has become overwhelmingly pervasive in the U.S. military. In the near future, the possibility exists that America will face a competitor that can match U.S. firepower or the political situation will severely limit use of firepower. In an age of shrinking force structure and budgets, it might be time to start to look for and teach other alternatives. The malaise of firepower has had a serious impact on risk identification and mitigation in the U.S. military.

This monograph begins by proposing a new model for thinking about operational risk. The purpose of the model is to identify the connections between different risk factors to gain a clearer understanding of the risk being incurred. The section then reviews the historical and current U.S. Army and Joint doctrine as it relates to operational risk and proposes a new definition for operational risk. The doctrine of the U.S. Army is also examined for tendencies that would make risk taking more acceptable. The model is tested using two qualitative case studies of the same battle form different perspectives. The first case studies examine the advance of X Corps in Korea 1950 and the subsequent attack on X Corps by the Chinese People's Army.

The case studies illustrate the links between the risk variables and how the culture, doctrine, and level of understanding in the formations affected decision-making. The studies focus on the campaigns and the arraignment of tactical actions, not the tactical actions themselves. The studies demonstrate how the opposing commanders understood their formation, the enemy, and the environment. The understanding is analyzed to show how risk played into decision-making. The monograph concludes with a discussion of how operational risk can be incorporated and areas for further study.

A. LITERATURE REVIEW

This section of the monograph will present a proposed operational risk model and review the doctrine of the United States military for operational level planning and execution. The doctrine used in Korea and the current doctrine will be considered. The theory and traditions behind the doctrine will be examined for how they play in to risk identification and mitigation. This section of the monograph will deal solely with U.S. risk doctrine. The Chinese do not have a published risk doctrine. They have traditions and tendencies of fighting that account for risk. The Chinese risk mitigation techniques are explored in the second case study narrative.

The proposed definition of operational risk for this monograph is: the willingness and ability of a commander to understand and accept exposure to potential threats or conditions in order to gain an advantage to achieve operational purpose. Operational risk is risk to purpose. The ability of a commander to visualize the operation and understand the impact of decisions and conditions on the purpose of the operation is a fundamentally different concept than risk to mission. The mission is the action a formation needs to take; the purpose is the underlying reason for the mission. Operational risk has to be understood as internal and external factors that will prevent achievement of the reason the operation was initiated in the first place.

The proposed operational risk model is designed to provide a clearer understanding of the amount of risk being incurred and how it relates to the purpose of the mission. [5] The model is based on the environmental scanning thinking skill.[6] The purpose of an environmental scanning model is identification of threats and opportunities in a system. The model accounts for both internal and external factors. The model is designed to help the commander better understand his

[5]See Appendix B.

[6]Michael Duttweiler, "Environmental Scanning," *Cornell University Cooperative Extension*, http://staff.cce.cornell.edu/administration/program/documents/scanintr.htm (accessed 26 July 2011).

formation and the enemy in relation to the terrain. Knowing the strengths and weaknesses of one's own formation is just as important as knowing the enemy. The enemy system and friendly system are both analyzed using the same variables based on their respective purposes. The purpose of the operation is the most important variable and the heart of operational risk. Purpose is the answer to the question of why is this operation taking place at all. Understanding the strategic purpose and the operational purpose is an operational commander's job. Risk can only be defined by threats to the achievement of that purpose. The proposed model is designed to show the connections between the variables and the operational purpose.

The first variable is guidance. For this essay, guidance encompasses all higher orders, both verbal and written. It will also take in to account the context and spirit in which the orders are given. The guidance can become a constraining factor or a liberating one. Guidance is important in considering risk because it establishes the boundaries in which a commander can operate. If the guidance is too restrictive it can induce more risk by narrowing the commander's options. By the same token, very ambiguous guidance can induce risk by allowing operations so risky they would not normally be acceptable. The guidance and how it relates to or defines the other elements in the model is the most important aspect.

The guidance defines the limits of the action possible in concert with the terrain. The terrain is not only the physical characteristics of the environment, but how they relate to a particular formation and operation. If the terrain is mountainous with few roads, a mechanized force will view it differently than an infantry centric force. The risks and opportunities for both are different, but interrelated because they are taking place in the same space. The terrain has to be considered from both perspectives to relate it to risk and the other variables. Terrain largely defines operational reach.

Joint Publication (JP) 3-0 defines operational reach as "the distance and duration across which a unit can successfully employ military capabilities."[7] Operational risk and reach go cannot be separated. Operational reach includes the ability of a force to sustain operations through logistics. The amount of supplies a formation needs and every mile it advances from the base of those supplies increases risk. Risk incurred by operational reach can be mitigated by security and speed or tempo of operations. Operational reach is linked with another element of operational art, culmination. Culmination is defined in FM 3-0 as "the point in time and space at which a force no longer possesses the capability to continue its current form of operations."[8] Culmination in the offense occurs when the formation must assume a defensive posture and discontinue the attack. Culmination is often due to the inability of a formation to extend its operational reach and continuously build combat power.

Self-knowledge is the most important variable aside from understanding the operational purpose. Self-knowledge is the ability of a commander and staff to understand and visualize the organization and capabilities of their formation in time, space, and in relation to the enemy. This concept seems simple on the surface, but is extremely difficult to understand and communicate in practice. Usually, a staff will attempt to accomplish this through a task organization chart, maintenance, personnel, and supply status charts, and movement tables. These methods are absolutely necessary, but do not fully convey the capability and stance of an organization. Much of the information is intuitive and experience based. Factors like how long a unit has been in contact, how long they have been moving, the effectiveness of weapons system in certain terrain and weather all play a part in understanding.

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[7]Department of Defense, Joint Publication (JP) 3-0, *Joint Operation* (Washington, DC: Government Printing Office, 2008), GL-22.

[8]Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: Government Printing Office, 2008), 6-18.

A greater level of depth in self-knowledge is the ability to identify the biases, norms, culture, and unspoken assumptions present in commanders and planners during planning. This level is very important in understanding the context in which the enemy and friendly forces are placed. Humility and respect in warfare are absolutely necessary when attempting to understand the enemy and friendly forces.[9]

Understanding the enemy's vulnerabilities and strengths is a large part of risk. The assessment of the enemy variable is the ability of the commander and staff to put the enemy in the context of the environment and their ability to operate. An accurate assessment of the enemy must include the enemy purpose for engaging in the conflict and the subsequent operational purpose. The assessment must also include doctrine, experience, and equipment. The why and how the enemy fights are vital to understanding their impact on risk.

The greatest period of risk for a formation is during transition from one type of operation to another. Phasing and transitions refers to how an operation is arranged and controlled over time, distance, and terrain.[10] Transitions incur risk because they require a change of guidance, orientation, or focus. During transitions, units will move and assume new areas of operations and issue new orders. A new set of variables and problems is introduced into an already complicated situation. A formation must get in the correct stance to execute its new mission. The stance of a formation, or its level of preparedness to execute and sustain a new mission is vitally important. A change in stance can include a shifting of units, lines of communication, and command and

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[9]Richard Kraut, "Plato," *The Stanford Encyclopedia of Philosophy* (Fall 2011 Edition), Edward N. Zalta (ed.), http://plato.stanford.edu/archives/fall2011/entries/plato. Sun-Tzu, *The Art of War* (Boulder: Basic Books, 1994), 179. The tradition of self-knowledge is present in both Western and Eastern philosophy. Socrates and Plato extolled the principle of having to know oneself before being able to know the world. One of Sun-Tzu's most often quoted passages is the idea that knowing oneself is the most important aspect of warfare.

[10]FM 3-0, 6-17. A phase is a planning and execution tool used to divide an operation in duration or activity. A change in phase usually involves a change of mission, task organization, or rules of engagement. Phasing helps in planning and controlling and may be indicated by time, distance, terrain, or an event.

control structure. Tired, strung out units have to be rested, resupplied, and reoriented before executing a new mission. Units grappling with a new mission are vulnerable both physically and psychologically.

How an army fights explains many things about its purpose and culture. A clear understanding of the cultural tendencies of an army can be very useful in formulating an operational plan to defeat it. The tendencies of an army can become a vulnerability to be exploited.

> In the history of strategy, the direction taken by the American conception of war made most American strategists, through most of the span of American strategy, strategists of annihilation. At the beginning, when American military resources were still slight, American made a promising beginning in the nurture of strategists of attrition; but the wealth of the country and its adoption of unlimited aims in war cut that development short, until the strategy of annihilation became characteristically the American way in war. [11]

Every army has characteristics. They move in certain ways, attack in certain ways, and make decisions in certain ways. Weigley's hypothesis may not be completely correct, but his premise is worth thinking about in terms of risk. Americans rely on technology and firepower to destroy the enemy's forces. Obviously, if the firepower is available, that is the best way to destroy the enemy while preserving one's own forces. American commanders make decisions rapidly and rely on firepower and aggression to retain the initiative. Overwhelming firepower allows for the acceptance of greater risk. The U.S. may have gone too far in its reliance on firepower to obviate risk and only paid it lip service in current doctrine. The current doctrine at least acknowledges that risk exists. The doctrine X Corps fought with did not alleviate risk, but only implied risk and how to mitigate it.

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[11]Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington: Indiana University Press, 1977), xxii.

Field Manual 100-15, *Field Service Regulations Larger Units* from June 1950 indirectly addresses risk and operational reach through concentration and security. The manual is for Theater to Corps level commands. The manual reflects the operational lessons learned in World War II with a view toward possible war with the Soviet Union in Europe. The planners in X Corps had probably not seen the new manual during X Corps' Chosin campaign. The section describing corps operations is almost word for word from the 1942 version of the manual.[12] It describes the general considerations for planning and executing offensive operations. The primary factor is having the corps in the proper stance to meet the enemy and planning forty eight to seventy hours in the future. In other words, the corps should focus on planning the next fight for the divisions and setting the conditions for the next operation. The manual continuously stresses the need to have flexibility throughout the formation during the advance. The reason for maintaining flexibility is to bring combat power to bear at the decisive point. Artillery, air power, and the reserve should be in position at the decisive point. These principles of massing firepower at the decisive point and rapid movement of combat power are all means of mitigating risk once the decision is made to commit to the decisive point. The manual also stresses security as a means to mitigate risk.[13] The most important aspect of risk mitigation however, is proper planning and staff communication coordinates and synchronizes firepower at the decisive point.

Richard W. Stewart summed up the doctrinal responsibility of the X Corps staff in *Staff Operations: The X Corps in Korea, December 1950* by paraphrasing FM 100-15 1950[14]

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[12]U.S. Department of the Army, Field Manual 100-15, *Field Service Regulations* (Washington, DC: Government Printing Office, 1942), 48-49.

[13]U.S. Department of the Army, Field Manual 100-15, *Field Service Regulations Larger Units* (Washington, DC: Government Printing Office, June 1950), 65-68.

[14]Richard W Stewart, *Staff Operations: The X Corps in Korea, December 1950* (Fort Leavenworth: U.S. Army Command and General Staff College, 1991), 50.

> The corps plan must be projected well in to the future; they must envisage action days in advance. . . . Adequate and timely information of the enemy must be Assured if the commander is to make the maximum use of his own forces and employ them decisively. . . . Plans for the employment of the corps cannot be improvised. From the initiation of operations until their conclusion the corps commander and his staff must be planning far in advance of the current situation. . . . Failure of large units to prepare suitable plans for future action may so delay the execution of suitable measures as to jeopardize the operations of corps and higher units.[15]

Planning for future operations is largely an exercise in risk mitigation. Visualization of enemy intentions and understanding the objective of future operations drives decision-making and reassessment of the current state of the corps. Future planning to generate options shapes the current state of operations. Options are generated by maintaining the initiative, and that can only be accomplished by having enough time to react, plan, and an understanding if the enemy. When the plan acknowledges security and the use of reserves, it is identifying and mitigating risk.

Advance, flank, and rear guards are the elements of security to extend operational reach in the 1950 FM 100-15. The manual calls security of the main elements during the attack and especially when contact is imminent. The purpose of the flanking security elements is to allow the main body divisions of the corps to concentrate and maintain mutually supporting distance. The reserve should also be within supporting distance of the main effort.[16]

The reserve works in concert with the main effort and the security elements to mitigate risk. The reserve should be a mobile force capable of rapid movement to the decisive point on the battlefield. The size of the reserve should be in direct correlation with the amount of risk the commander is willing to accept. As uncertainty grows, so should the reserve. The operations

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[15]FM 100-15 (1950), 65-68.

[16]Ibid., 68.

manual the X Corps staff used addresses risk in terms of surprise, security, and command when dealing with uncertainty.[17]

Security is the primary means of obviating risk in FM 100-5. Security is the sixth chapter before offense, defense, and other operations.[18] The purpose of security is to protect a unit from being surprised and allowing it to retain freedom of maneuver. The manual describes the tenets of using security during different operations. Simple tenets for security are explained in the security section of the manual that if followed would have had a direct impact on X Corps.

The size of rear area security forces, or a reserve, should increase when contact is imminent or the tactical situation is uncertain.[19] This echoes the instructions from FM 100-5. The theme is undeniable. The section immediately following concerns the requirement to integrate aviation and fires in to the security plan. The intent of the doctrine is quite clear. Protect your forces when faced with imminent enemy contact or an uncertain situation. While risk is not named, the purpose behind security and the maintenance of a reserve is risk mitigation. Risk is present in the manual's section on command. Interestingly, it shows the opposite side of risk, acceptance instead of mitigation.

> The estimate (commander's) often requires rapid thinking, with consideration limited to essential factors. In campaign, complete information concerning the enemy can seldom be obtained. To delay action in an emergency because of incomplete information shows a lack of energetic leadership, and may result in lost opportunities. The situation, at times, may require the taking of calculated risks. [20]

This passage portrays the tension between risk and opportunity a staff has to balance. When considered with the sections on surprise and security, the whole portrays a convincing

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[17]U.S. Department of the Army, Field Manual (FM) 100-5, *Field Service Regulations Operations*, (Washington, DC: Government Printing Office, 1949), 31-34**.**

[18]Ibid., iii.

[19]Ibid., 47.

[20]Ibid., 24.

picture that the doctrine writers in 1948 and 1949 had a good grasp on risk and how it played into operations and planning. The passage also portrays another hallmark of the American way of warfare, aggression.

The doctrine portrays failure to seize the initiative as anathema to American war fighting. Several passages in both manuals in the sections on command demand action in the face of uncertainty and doubt. In the same sections, however, the manuals also preach caution and risk mitigation through reserves and security. So then it is up to the commander and staff to balance the risk and reward with mission, enemy, friendly troops, and terrain to come up with an acceptable solution. That fact has not changed from Korea to today. The X Corps planners had to rely on their own creativity to portray risk to Major General Almond, the X Corps commander. Modern U.S. doctrine does directly address risk in Joint and Army doctrine. The risk is addressed everywhere, but never in an operational sense except as a narrative. Risk is supposed to be integrated, but is really more segregated into risk matrices and planning documents. It is not where it should be. It should be with the decisions, because the decisions commander makes incur risk. It appears doctrine has evolved, but not far enough.

The current U.S. Joint and Army doctrine discusses risk at every level from tactical to strategic. Multiple layers of risk assessment are part of every military action form going on a long weekend to going to war. The doctrine has swung from risk as an implied condition to the point of rote execution. Risk management has become the norm, which is a good development. The problem is operational risk management is disjointed and lacks any clear focus at the operational level. Worse, it is in no way tied to decision-making or purpose.

The cause of this stove piping of risk has two sources. The primary means for identifying risk is a stand-alone risk assessment matrix that is often not integrated into planning. The other reason that U.S. doctrine has segregated or ignored operational risk is that it is extremely difficult to identify and explain. Operational problems are complex by their nature. There are multiple

inputs and a myriad of factors to consider, most of which are not discernable at the outset of the operation. The impetus for operational planning is a national purpose. Purpose translates into tactical military actions. When planners move from conceptual planning to detailed planning, there is tension. The tension is how to translate the purpose. Understanding the purpose of an operation is vital to identifying operational risk. The planners have to have a firm understanding of the problem ad purpose before they can identify operational risk to accomplishment of that purpose. Then, to further complicate matters, the planners have to identify the operational military risks.

The primary planning manual for Joint planners is Joint Publication JP 5-0, *Joint Operation Planning.* JP 5-0 defines risk as "Probability and severity of loss linked to hazards."[21] This is a less than helpful definition. The manual does not define operational risk. In fact, no U.S. military manual does. JP 5-0 does integrate risk into the planning process in a multitude of ways.

The Joint Planning and the operational design processes both incorporate risk[22] The Joint Planning Process (JOPP) uses risk in the mission analysis and course of action comparison. The initial analysis of risk assessment is based the mission, terrain, enemy, and friendly units. That risk assessment is used, as the basis for the risk criteria for determining which course of action is most useful. JOPP decision-making is not synchronized with, or expressed in terms of risk. Planners do not incorporate the risk assessment in the decision-making and synchronization matrixes at the operational level. Planners need to express risk in terms of how it affects changing conditions and decisions. The problem is more apparent in the Operational Art and Design portion of the manual.

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[21]Department of the Defense, Joint Publication (JP) 5-0, *Joint Operation Planning* (Washington, DC: Government Printing Office, 2006), GL-21.

[22]Ibid., III-21.

The design portion of the manual is to apply operational art to military problems.[23] The mechanism for doing this is to use the elements of operational design to focus the planning process and translate national purpose. The design elements are a lens to focus the staff's shared understanding and the commander's intent. Risk did not make the list. Risk is, however, inherent in every single element. To make risk an element of design would be to discount it even further though. The way to get at the real risk is to express the elements in terms of decisions and then define the risk associated with those decisions. The current Army planning manuals also incorporate risk with some of the same fallacies.

The two primary Army planning manuals are FM 3-0 *Operations* and 5-0 *The Operations Process*. Neither manual defines risk. FM 3-0 does incorporate risk in the Army elements of operational art.[24]

> Operational art balances risk and opportunity to create and maintain the conditions necessary to seize, retain, and exploit the initiative and achieve decisive results. During execution, the opportunity is fleeting. The surest means to create opportunity is to accept risk while minimizing hazards to friendly forces. [25]

The words are different, but the underlying theme is the same as the paragraph in the 1949 FM 100-5. If the fundamental understanding of risk has not fundamentally evolved then perhaps the method for incorporating it has. Risk is a part of the military decision making process (MDMP), but it suffers from the same issues as the JOPP.

The answer for risk integration is in the current volumes of FM 3-0 and 5-0, but it is difficult to bring out. The key to integrating operational risk is in properly integrating the results

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[23]JP 5-0, GL-18. Operational art is the application of creative imagination by commanders and staffs--supported by their skill, knowledge, and experience--to design strategies, campaigns, and major operations and organize and employ military forces. Operational art integrates ends, ways, and means across the levels of war.

[24]FM 5-0, 6-19.

[25]FM 3-0, 6-18.

of the Army Design Methodology (ADM) and the Military Decision Making Process (MDMP). ADM is designed to help commanders understand complex problems. The risk model this essay proposes is based on the environmental frame of ADM. Design is about understanding the current situation, visualizing how the situation should be, and finding a bridge between the two. The strength of design is that it allows the commander a greater level of understanding about how the variables on the battlefield are likely to react and change over time. The risk model is simply an adaptation of this idea. The difficulty in getting the conceptual ideas gained form design is translating them into detailed orders. The same difficulty lies in translating operational risk. The key elements for translating the conceptual ideas of ADM into MDMP are the commander's intent and planning guidance.[26] Intent and planning guidance are the result of design and are meant to bridge the gap between the conceptual and detailed planning realms. The proposed risk model is designed to engender greater understanding of how the variables identified in design affect the purpose of the operation and the risks to that purpose.

Risk mitigation in the current Army system begins with identification of hazards. A hazard is a condition that could potentially harm equipment, personnel, or mission accomplishment.[27] The process moves on to mitigating the hazards through controls. The process is lacking because it does not relate risk to decisions and purpose. The fundamental question at the operational level is what will cause the mission to fail to meet the strategic goals. The U.S. military can only integrate and mitigate operational risk if it understands the purpose and underlying assumptions, it brings to every campaign. The U.S. assumes it will have air superiority and an overwhelming firepower advantage on the battlefield. Victory through firepower at the

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[26]FM 5-0, 3-7.

[27]U.S. Department of the Army, Field Manual 5-19, *Composite Risk Management* (Washington, DC: Government Printing Office, 2006), 1-2.

decisive point is how the U.S. military fights. The danger in this assumption and tendency is that it can breed a single mindedness and failure to identify alternative courses of action. Why is understanding this assumption and how it affects planning and risk? The answer is the enemy. The enemy understands this firepower tendency and has, and will continue to turn it against us or mitigate it.

B. METHODOLOGY

This study began by describing a theory of American warfare based on a reliance on firepower and offensive action to seize the initiative. These tendencies are analyzed in qualitative case studies to see if they subordinate risk. Then it examined U.S. Joint and Army for definition of and integration of risk into planning. These precepts contrast with a Chinese theory of warfare based on maneuver, deception, and a focus on the preparation for warfare. The next section analyses a single case study from two sides. The question of how the U.S. reacts to operational risk, and a possible alternative, can be determined through examining one case study from two sides. The Chinese attack on X Corps in Korea, 1950 provides an example of two forces dealing with operational risk. The X Corps case study provides evidence of how different commanders understand and mitigate risk in the same environment. The key evidence needed is finding the mechanisms both commanders and staffs used to identify and mitigate risk and how risk drove their decision-making. This thesis will identify how risks were identified and mitigated, and when risks were identified and ignored, and risks which were not identified on both sides. The form of warfare the U.S. and China were using is also important. Both sides thought they were conducting a war of maneuver.

The case studies will examine X Corps and the Chinese People's Volunteer Army using the U.S. Army mission analysis construct.[28] The variables in the study follow the steps of mission analysis for both the U.S. and Chinese. Using the mission analysis construct will operationalize the variables of, mission, enemy, time, terrain, and troops. Conducting mission analysis on both opponents will reveal their understanding of the battlefield, their force, and the enemy. This understanding drives the decisions both sides make and those decisions show how risk was understood. Beyond understanding, the decisions convey the amount of risk a commander is willing to incur.

Qualitative case studies are the basis of this monograph because of the nature of risk. Risk is a subjective judgment about conditions, decisions, and end state. The Army Risk Management process attempts to quantify risk based on severity of hazard and probability. Operational risk is different because the risk is always severe and will result in failure to achieve the operational purpose.

Comparative case studies are used in this monograph to highlight the different methods two formations used to solve similar problems of terrain and mission. A mechanized U.S. force fighting a mechanized enemy force would not portray different operational solutions because mechanized forces tend to fight in similar fashions. Mechanization framed the case studies in time as well. Korea, 1950 was selected with these variables in mind. A mechanized U.S. force was fighting a lightly equipped, mobile enemy over the same terrain, but with different operational and doctrinal practices. The formations also had to have a direct impact on the strategic outcome of the conflict. Lastly, information had to be available on the decisions made, the guidance given, and outcome of the selected case studies from the points of view of both combatants.

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[28]FM 5-0, B5-B13.

Case studies were considered and discarded based on the variables. U.S. operations in the Ia Drang valley in Vietnam 1968 were considered but not used because it did not significantly alter the outcome of the war. Operation Restore Hope in Somalia in 1991 was considered but not used because information was not available on the actions and decision making of the insurgents. Similarly, Operation Anaconda in Afghanistan was not useful because of a lack of research material on the insurgent operational process and because it did not change the strategic situation.

X Corps in Korea met all the criteria. X Corps was a large mechanized force whose campaign would have a direct effect on the outcome of the war. X Corps is widely written about and the doctrine and first-hand accounts are readily available of the planning and decisions made. The CPV also meets the criteria of being a large force with the ability to affect the strategic situation. The CPV was equipped and fought in a different manner than X Corps. While there is not the same amount of information available about the CPV, there is certainly enough to make an accurate assessment.

The U.S. campaign in northern Korea in 1950, and X Corps' advance and subsequent defeat are unique for another reason. This campaign represents the only time the U.S. military has been defeated while enjoying air superiority.[29] The airpower was believed to be an overwhelming advantage in both firepower and the ability to extend operational reach. These underlying assumptions are present in every U.S. operation since Korea.

X Corps' advance into northern Korea is particularly applicable because it carried all the hallmarks of the American way of warfare. X Corps was advancing audaciously under a blanket of aircraft to complete the destruction of the enemy forces to end the conflict. The pressure to advance from higher and the need to retain the initiative all seem to have conspired to push X Corps to the edge of its operational reach to the point of extreme vulnerability. Offensive action is

[29]JP 3-0, GL-5.

the course of action most commanders naturally prefer. In the spirit of the attack, X Corps advanced into the Korean winter over a single road against an uncertain enemy.

II. X CORPS, KOREA, NOVEMBER 1950

A. Narrative

The failure of X Corps to achieve its purpose in November 1950 had many causes. Inadequate supplies, one overland main supply route, inability to appreciate intelligence, dispersion of units, road bound maneuver, and underestimation of the enemy have all been cited.[30] X Corps failed to understand its own strength or the capability of its units. This failure was exacerbated by the inability of the commander, General Ned Almond, and his staff to appreciate the enemy they now faced. X Corps had a difficult mission that demanded dispersion over poor terrain against an uncertain enemy exacerbating an already strained command and control structure. X Corps was a polyglot force of United States Marine Corps (USMC), U.S. Army, British Army, and Republic of Korean (ROK) forces. In many cases, the U.S. Army formations had large numbers of Korean Augmentation to the United States Army (KATUSA) soldiers to fill out their ranks.[31] With this dismal operational context, X Corps still expected to win and was willing to accept all these risks. Why? What factor drove a professional U.S. Army corps commander and staff to believe this operation would work? Could overwhelming air superiority have really made this look feasible? Did the X Corps staff even understand that the assumption of overwhelming firepower could trump sound operational design? Did they have a choice?

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[30]Eliot A. Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: Anchor, 1991), 191.

[31]S. L. A. Marshall, *Commentary On Infantry Operations and Weapon Usage in Korea, Winter of 1950-1951* (Chevy Chase, MD: Johns Hopkins University Operations Research Office, 1952), 52-54.

The strategic situation in Korea 1950 looked very good for a United Nations victory over the communist North Korean Army (NKA) forces. General Douglas MacArthur, the Far East Command Commanding General, had orchestrated a brilliant campaign by landing at Inchon with X Corps. Simultaneously, Eighth Army had broken out of the Pusan perimeter and attacked north.[32] The operations were a huge success and the NKA was soundly beaten and retreating north.

In October 1950, X Corps was loaded back on its transports for movement back around to the east side of the peninsula to make a landing at Wonsan. After landing 3rd Infantry Division (3ID) at Wonsan and 1st Marine Division (1st Mar Div) at Hungnam, and 7th Infantry Division (7ID) at Iwon, and the plan called for X Corps to attack to the west. On the west coast, Eighth Army had relieved X Corps and would now attack north and east toward the North Korean capital, Pyongyang. The capital was also the eventual target of X Corps' attack. The situation changed after Eighth Army captured Pyongyang ahead of schedule. X Corps' orders were changed to attack north and west to encircle the remaining NKA forces and end the war by reaching the Yalu River. MacArthur tasked X Corps with securing the crossings on the Yalu River as well.[33]

The war to this point was a Western, World War II doctrinal, mechanized army fighting a mechanized, Russian equipped and doctrinally Soviet force. U.N. forces had steadily driven the NKA north under an umbrella of air superiority and operational maneuver with the landing at Inchon. The U.N. had taken the full measure of the NKA and was defeating it. The aim of the war had shifted from restoration of the pre-conflict boundary, the 38th parallel, to the unification of the two Koreas. GEN MacArthur's task was the destruction of the NKA. He interpreted that task

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[32]See Appendix A.

[33]Headquarters X Corps Command Report, 2.

and expanded it to include an advance to the Chinese border with approval from President Truman and the National Security Council in early November.[34] MacArthur decided to make Eighth Army the main effort tasked with destruction of the remaining NKA forces and X Corps was to land on the north east coast and cut the NKA off from retreat to facilitate it's destruction. MacArthur was disbelieving of reports that China would fully commit to the war and believed airpower could isolate the NKA and interdict the Chinese line of communication long enough for his forces to complete the destruction of the NKA. Every action in the war and much of World War II reinforced this belief.

China took a different view of the developments in Korea. China had been quite clear in warning the UN forces not to cross north of the 38th parallel.[35] MacArthur ignored these warning and continued with the plan to attack to the Chinese border. The existence of a Western, capitalist client state on China's border was unacceptable to the Chinese leadership.[36] The Chinese made the decision to intervene directly in Korea to halt the U.N. advance.

In the weeks leading up to the Chinese attack, X Corps was transitioning to the offense. The corps was simultaneously building a base of supply and attacking in three directions. In the midst of the attack, the corps changed direction. The divisions advanced across the rugged terrain of northeast Korea with winter on its way. Nowhere in war is risk as great as during a transition, especially changing direction during an attack. The problem the corps faced had just completely changed, demanding an entirely new set of decisions and variables. The evidence points to General Almond and the X Corps staff having a good grasp of how the terrain and change would

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[34]Mossman, 21-22.

[35]Allen Whiting, *China Crosses the Yalu: The Decision to Enter the Korean War* (Stanford: Stanford University Press, 1960), 151-62.

[36]Russell Spurr, *Enter the Dragon: China's Undeclared War Against the U.S. in Korea, 1950-1951,* reissue ed. (Canada: Newmarket Press, 1988), 68-71.

effect their plan and ability to carry out their mission. Their inability to relate the risk to the enemy they now faced, and the ability of their own formation to carry out their orders, would bring X Corps to the brink of destruction.

B. Guidance

X Corps received orders to continue its attack north on 24 November following a G-3 conference in Tokyo. In the west, Eight Army was also continuing its attack. The overall concept of operation in Korea was envelopment of the remaining North Korean (NKA) Army units between X Corps and Eighth Army. The purpose of the operation was to prevent any NK forces from escaping to China and to destroy the remaining NK forces. These actions, combined with attacks to the Yalu River, were designed to end the war by Christmas. MacArthur was attacking to the Yalu with American units in the lead. His intention was to seize the river crossings before the river froze to prevent the Chinese from being able to cross anywhere at will. The plan X Corps issued on 25 November had four supporting operations focused on reorienting the Corps to attack west.

X Corps' mission went through several evolutions between 10 and 25 November 1950 based on correspondence between General Almond and Far East Command (FEC) and mission analysis by General Almond and the staff. The initial guidance from the FEC G3 was simply for X Corps to do everything possible to assist Eight Army in its attack. General Almond concluded that the best course of action was for X Corps to continue to attack north and west beyond the Chosin Reservoir.[37] On 16 November, General Almond received planning guidance from General MacArthur to develop and operations plan to attack north to Changjin-Gang Reservoir north of Chosin Reservoir. Once X Corps had seized Changjin, the corps would attack west toward

[37]See Appendix A.

Kanggye to sever the NKA main supply route.[38] This guidance was the first formal order reorienting the corps from its drive north to the Yalu.

The staff presented General Almond with a draft plan based on the new guidance on the 17th. The concept of the operation was a drive to Changjin and then on to Kanggye. Almond changed the orientation of the attack based on the length of the main supply route the lead X Corps division would need. Almond favored an axis of attack to Hagaru-Ri and then a turn west toward Mupyong-Ni. The change was due to analysis that the terrain between Changjin and Hagaru-Ri was nearly impassable and too large for one division to secure. General Almond also gave mobility guidance. He directed that the Corps Engineer brigade make the maintenance of the road between Hagaru-Ri and Hungnam its main effort as the corps main supply route. This guidance became Operations Plan No. 8, Draft 3.[39]

General Almond presented the plan to MacArthur on 24 November. MacArthur approved the plan with the addition of a boundary change between Eighth Army and X Corps. X Corps issued the order as Operations Order Number 7 on 25 November with the following mission statements from the X Corps Command Report on the Chosin Reservoir:

a. X Corps: Attacks 270800I Nov to sever En Loc at MUPYONG-NI and destroys En in zone to the Northern Boundary of Korea along the YALU River on the left to the mouth of the TUMEN River on the right.

b. 1st Mar Div: Attacks at 270800I Nov to seize MUPYONG-NI, advance to YALU River, and destroy En in Z.

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[38]Headquarters X Corps Command Report, 9.

[39]Ibid.

c. 7th Inf Div: (1) Attacks N at 270800I Nov from CHOSIN Reservoir, advances to the YALU River and destroy En in Z. (2) Secures PUNGSAN area, after coordinating with I ROK Corps.

d. I ROK Corps: Defends YALU River line in Z, advances from HAPSU and CHONGJIN areas, destroys En in Z to Northern Boundary of Korea.

e. 3rd Inf Div: (1) Gains and maintains contact with right flank Eighth Army along boundary in Z, (2) Protects X Corps W flank in Z, (3) Supports 1st Mar Div on X Corps O, (4) Protects airfield and harbor facilities in WONSAN area, and (5) destroys En guerilla forces in Z.[40]

The guidance issued by General Almond shows a good appreciation of the terrain, the logistical challenges faced by X Corps and the need to secure the main supply route and rear areas. Interestingly, the need to keep the units within mutually supporting distance is also evident in the decision to not attack all the way to Changjin. This understanding of the terrain and the importance of the logistics lifeline needed to sustain a mechanized force translated in to the division missions.

One mission is missing from the order. The commander and staff did not designate a corps reserve. The 41st Royal Marine Commando (U.K.) with several attachments of U.S. infantry and armor formations became the reserve during the battle.[41] The brigade size element attacked north from Koto-Ri to Hagaru-Ri. The purpose of the attack was reopening the line of communication to the surrounded 1st Mar. Div. and 7ID. The lack of identification of a reserve, and more importantly, it's priorities of planning, is telling. The simple exercise of a staff asking what tasks a reserve is assigned and how it would go about accomplishing those tasks is useful and can bring to light some fundamental gaps in planning. General Almond and the staff

[40]Ibid., 10.

[41]Ibid., 37-38.

recognized the implications of spreading out their formation. A failure occurred when they did not take that understanding farther. How big should the reserve be and how will it get to where it needs to go? If the answer is a brigade and it cannot get there because of the roads, then there is a problem in the plan. If the staff determines the reserve is airpower, the limitations of airpower need to be in the plan.

General Almond was very concerned about his ability to support his force over an extended line of communication as evidenced by the decision to attack west from Hagaru-Ri. The maintenance and security of the road over which most of the 1,000 tons of supplies X Corps would need a day was a key task for X Corps.[42] Almond committed over half of the engineers in the corps to maintaining the main supply route. The concern over how to support the corps and the importance of securing the main supply route is also evident in the instructions to 3rd (U.S.) Infantry Division (3ID). The order tasked the division with securing the rear area of the corps. Almond had committed a full quarter of his combat power to mitigating the risk to his lines of communication. X Corps' experience with guerrilla activity during the Inchon campaign dictated a robust security force. Groups of cut off NKA soldiers and insurgents continuously harassed U.N. rear areas.[43] The recognition of the need for security and the understanding of what 3ID was capable of however, were tow entirely different propositions. 3ID now had to contend with a front of nearly 100 miles.[44]

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[42]Ibid., 54.

[43]U.N. Far East Command estimated Guerrilla strength in Korea at between 32,000 and 35,000 during November 1950 causing nearly thirty percent of U.N. combat forces to engage in anti-guerrilla operations. See Command Report, "General Headquarters Far East Command, November 1950," 24-25.

[44]*Battle Analysis, Wonsan, Rear Area Operations (3rd Infantry Division, November, Korea 1950***)** (Fort Leavenworth, Combat Studies Institute Battle Book 1-C, 1985), 34.

C. Operational Reach and Terrain

The terrain over which X Corps had to fight was vast and rugged with few roads and railroads. X Corps' area of operation was bound in the north by the Yalu River. The eastern boundary was the eastern coast of the Korean Peninsula with the Sea of Japan. This boundary ran from the Chinese and USSR border in the north to Wonsan in the south. The southern boundary was a line Wonsan to Yangdok road where it met the boundary with Eighth Army. This western boundary ran south to north along the Taebek Mountain Range along a line from the towns of Yangdok, Yudam-ni, Chagjiin, to the Yalu River.[45] X Corps had assumed a frontage of approximately 640 kilometers. [46]

The operational logistics chain was inadequate in the Korean theater. The process of moving supplies from the United States to Korea was laborious and time consuming. The process was further complicated by the command structure and supply infrastructure. The supply chain was reliant on ships and wheeled vehicles as primary means of supply delivery. The road network in Korea was inadequate and treacherous. The command structure complicated the supply chain because X Corps was a separate command from Eighth Army. While X Corps was reloading the ships at Inchon, Eighth Army came to a standstill because no supplies were coming in. The supply problem was temporarily relieved when X Corps was operating near Hungnam. X Corps had to advance to fulfill its mission. Throughput at the port and a single dirt road increased the risk to the supply lines of communication with every mile gained. The manner in which X Corps chose to advance however, played directly into the enemy's hands.

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[45]See Appendix B.

[46]Roy E. Appleman, *Escaping the Trap: the US Army X Corps in Northeast Korea, 1950* (College Station, TX: Texas A & M University Press, 1990), 8.

X Corps' area of operations had one trafficable road from its main base of supply at Hamhung and the forward logistics base at Hagaru-Ri. The road was 76 kilometers of dirt road with gravel surface. The majority of the road was suitable for two-lane traffic. 23 kilometers of the road, however, were through a pass complex. The road through the pass complex was one lane and had numerous sharp turns and steep grades. The X Corps engineers estimated it would take six engineer battalions a month to make the pass complex road usable for even one-way traffic.[47] The bitterly cold conditions the corps would face helped keep the road surface solid, but made the pass road extremely treacherous. The road had numerous small bridges and three major bridges. A damaged narrow gauge railroad from Hamhung to Sundong south of Koto-Ri and a cableway to move supplies over the passes complemented the road. The railway and the cable system were damaged and not operational and the expertise to repair them was not organic to X Corps. X Corps requested the engineer units from Japan needed to repair the infrastructure. Over this single tenuous artery would flow the 1,000 tons a day needed to sustain X Corps' main effort?

The X Corps G-2 estimate assessed the terrain as being favorable to the defender. The terrain favored the defender from the U.S. perspective because large portions of the area of operations were not vehicle accessible. The vehicle centric perspective translated in to the missions given to 3ID and what terrain the staff considered key. 3ID secured the crossroads of the cross mobility corridors moving from east to west. The G-2 considered these crossroads, the main supply route north from Hamhung, and the few population centers along with the Yalu River crossings key terrain.[48]

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[47]Headquarters X Corps Command Report, 54-55.

[48]Ibid., 29-30.

The assessment of controlling the roads and populations centers as providing a marked advantage over the enemy speaks volumes about the X Corps staff's perspective. The assessment is entirely correct for a mechanized force fighting another mechanized force. X Corps was used to fighting the NKA. The NKA was a largely conventional, Soviet-equipped, mechanized force. The CPV forces confronting X Corps were a different army that fought in a different manner. Beyond the inability to understand the terrain in the enemy's terms, the plan did not truly account for how or the number and type of troops needed to secure the key terrain.

The most important piece of ground was the main supply route. Securing the main supply route did not simply mean controlling the towns, crossroads, and bridges. The most important terrain was the terrain that controlled the key terrain. The high ground around the crossroads and bridges controlled the main supply route. To control the high ground, X Corps needed infantry. The commanders and soldiers in X Corps were used to securing terrain against mechanized forces. They were not used to getting off the road. General Matthew Ridgway neatly summed up the issue after he took command of Eighth Army and X Corps following the retreat:[49]

> What I told the field commanders in essence was that their infantry ancestors would roll over in their graves could they see how roadbound this army was, how often it forgot to seize the high ground along its route, how it failed to seek and maintain contact in its front, how little it knew of the terrain and how seldom took advantage of it, how reluctant it was to get off its bloody wheels and put shoe leather to earth, to get into the hills and among the scrub and meet the enemy where he lives.

General Almond and the staff's inability to carry the problem presented by the terrain from identification to understanding were compounded by the inability to understand they were facing a completely new enemy. The enemy did not view the terrain as a hindrance, but an opportunity.

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[49]Matthew B. Ridgway, *The Korean War: How We Met the Challenge, How All-Out Asian War Was Averted, Why MacArthur Was Dismissed, Why Today's War Objectives Must Be Limited* (Garden City, NY: Doubleday, 1967), 88.

D. Assessment of Enemy

X Corps' misunderstanding of the CPV was caused by a variety of factors and had implications far beyond simply being surprised. The misunderstanding of the CPV, how it would fight, and how it would marginalize U.S. airpower nearly destroyed Eighth Army and X Corps. The intelligence failure to recognize the Chinese intervention started at the highest levels. The U.S. Central Intelligence Agency (CIA) inaccurately assessed the intentions of China and the CPV. A cascade of inaccurate intelligence assessments reinforced the notion that airpower would mitigate any Chinese involvement and that the Chinese would fight a defensive battle. A defending enemy is more static, making him more susceptible to damage from airpower. The Chinese did not intend to fight a defensive campaign.

The CIA estimated that China would conduct a defensive campaign to secure the industrial base of around the YALU and the hydroelectric plants on the river.[50] The estimate called for limited counterattacks and support to the NKA. The CIA based most of its assumptions on a monolithic communist structure with the USSR defining the strategic goals. The CIA reported these assessments to President Truman and General MacArthur. The faulty intelligence supported the UN decision to advance north of the 38th parallel, despite the public Chinese warnings. The assessment of the Chinese conducting limited counter attacks and defending is present in UN General Headquarter Far East Command (FEC) and X Corps' intelligence estimates covering the same time-period.[51]

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[50]*Study of CIA Reporting on Chinese Communist Intervention in the Korean War September to December 1950*, 10-12.

[51]Command Report, "General Headquarters Far East Command, November 1950," 21-24; Headquarters X Corps Command Report, "Special Report on Chosin Reservoir," 30-32; Headquarters X Corps G-2 Section, "Periodic Intelligence Reports 26 November to 10 December 1950," 5-6**.**

The intelligence reporting confirmed the bias General MacArthur and General Almond already had. They believed the Chinese would not intervene in massive numbers and if they did, their poorly equipped divisions would be no match for U.S. firepower. The intelligence situation on the ground contradicted the assessments. The U.S. Air Force (USAF) reported in the beginning of November that MiG-15s flying from Chinese air bases in large numbers were aggressively attacking B-29s and their fighter escorts.[52] The X Corps intelligence reports from captured Chinese soldiers are very detailed about the size and intentions of the CPV forces.[53] A large Chinese force had driven back Eighth Army in the west. These indicators could mean nothing when viewed singularly, but in aggregate, they point to a changing situation. The indicators could have meant that the Chinese were going to do exactly as the intelligence community assessed. The Chinese had after all attacked and retreated, exactly as the intelligence community predicted. The assessment of the prisoners and the MiGs demand more attention. Why would three Chinese privates be so well informed? What if the MiGs could pose a threat serious enough to contest the skies over Korea long enough for to reduce air superiority to local air superiority? How did the Chinese surprise Eight Army so completely? When the initial intelligence estimate supports an already held belief, there is no reason to reassess the risk incurred by continuing to advance into an ambiguous situation. 1st Marine Division had a different understanding of the situation and method of hedging against the unknown.

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[52]A. Timothy Warnock, ed., *The USAF in Korea: a Chronology, 1950-1953*, The Korean War 50th Anniversary Commemorative ed. (Washington, DC: Air University Press, 2000), 20-23.

[53]Headquarters X Corps G-2 Section, 13-14.

E. Self-Knowledge

X Corps had trouble seeing itself. The primary barrier to accurate self-assessment was the hubris of GEN MacArthur and GEN Almond in regard to the Chinese.[54] The U.S. leadership was operating on the underlying assumption of being superior to the Chinese in every area. This belief, coupled with the overestimation of the ability of the airpower to be decisive and the underestimation of Chinese capability colored every decision made. The bias against the Chinese made it impossible for GEN MacArthur and Almond to accurately see their formation or the enemy. The Chinese understood the hubris and aggression of the American generals and used it while devising their operational approach to lure the U.S. forces deep into northern Korea.[55]

X Corps mitigated some risk by advancing with its most powerful formation in the lead. 1st Marine Division did not suffer from the lack of replacements, training, and KATUSAs, which plagued the Army divisions. 1st Marine Division deployed at full strength and had seen less combat than the Army divisions. The commander of 1st Mar Div, Major General Oliver P. Smith recognized the tenuousness of the supply line and was increasingly aware of the Chinese threat. The Marines established a robust base of supply at Hagaru-Ri before advancing despite pressure to move more rapidly.[56] The Marines had dedicated Marine airpower for close air support. The USAF squadrons had other missions north and in support of Eighth Army. The Marines were increasingly aware of the Chinese movements from their human intelligence network.

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[54]Michael D. Pearlman, *Korean War Anthology, Truman and MacArthur: The Winding Road to Dismissal* (Fort Leavenworth, KS, Combat Studies Institute), 5-10. Lynn Montross and Captain Nicholas A. Canzona, USMC, *The Chosin Reservoir Campaign (U.S. Marine Operations in Korea, 1950-1953)* (Nashville: Battery Press Inc., 1987), 142-150.

[55]Shu Guang Zhang, *Mao's Military Romanticism: China and the Korean War, 1950-1953* (Lawrence, KS: University Press Of Kansas, 1995), 118-119.

[56]Montross and Canzona, 141.

The 1st Mar Div had a completely different view of the battlefield and the enemy. The 1st Mar Div G-2 intelligence arrived at a completely different assessment of the Chinese on 1 November. The 1st Mar Div G-2 concluded that the Chinese were not a piecemeal force, but coherent units reinforcing in preparation to attack.[57] General Smith worked to concentrate the Marine units as much as possible based on this assessment and fully expected to fight large Chinese units to his front and flanks. The Marines worked feverishly to improve the MAIN SUPPLY ROUTE and establish an airfield at Hagaru-Ri.

The largest advantage the Marines afforded themselves was mental preparedness. The Marines considered the new situation, terrain, enemy, and took appropriate steps to mitigate the risk these factors created. The Marines were mentally prepared to fight large units and to be cut off for short periods. The Marines pulled in to battalion and regimental sized perimeters overnight and fought off the Chinese attacks. If any unit should have been completely reliant on airpower, it was the Marines with dedicated air support. The Marines recognized airpower limitations and tempered it with concentration of ground forces and a secure base of supply. In short, the Marines followed their doctrine, maintained discipline, and had respect for the abilities of the Chinese Army. Most importantly, the Marines identified the risks to their formation and took appropriate steps to mitigate it.

F. Phasing and Transitions

X Corps was in transition when the Chinese attacked. The Corps had reoriented to attack west and was in the midst of securing its lines of communication and base of supply. The weather was changing from fall to winter conditions. The war itself was winding down and the end seemed inevitable. Psychologically the general consensus was that Christmas would mark the end

[57]Ibid., 99.

of combat operations. The hard fighting was past and the enemy was on the run. This basis for understanding did not relieve the X Corps leadership and staff from managing the transition, though.

The reorientation of the corps on a new axis of attack should have set off a number of alarms in the other areas. All the variables present in operational risk had changed aside from the enemy simply based on the move west. Operational reach had to be extended. A new piece of terrain and avenues of approach had to be considered. The center of gravity may have now changed and have a new requirement to achieve the operational purpose. Was the Corps in the proper stance to conduct another seventy-five mile attack over rough terrain? What conditions needed to be met before the operation was executed? The need to assist Eighth Army was great, but what good was X Corps if it ran out of supplies half way to reaching Eighth Army? X Corps did not properly manage the transition and set the conditions for achieving its purpose.

G. Conclusion

X Corps had operational challenges from the moment the first trooper set foot on the pier in Hungnam. Restrictive guidance, terrain, faulty intelligence, and a new enemy almost guaranteed that X Corps would not achieve its purpose. X Corps' purpose was to enable Eighth Army to complete the destruction of the NKA and effectively end the conflict. Unfortunately, there was a mountain range between the two formations. The restrictive guidance issued to X Corps forced GEN Almond to spread his forces across northeastern Korea. The verbal guidance focused X Corps on achieving the overall purpose of supporting Eighth Army, but did not relieve it of the myriad of tasks previously assigned.

If X Corps had used the operational risk model proposed here, would they have made the same mistakes? Perhaps, but the model would have greatly improved the X Corps staff analysis of the problem. The usefulness in the model is to question what is put on the paper or board and

then ask some hard questions. The terrain, weather, and condition of the main supply route alone should have raised doubts and changed the operational maneuver of X Corps. The doctrine in 1949 clearly focuses on security, a reserve, and maintenance of ground lines of communication to extend operational reach.

The X Corps commander and staff believed they were on the opportunity side of operational risk. They were attacking to seize the initiative, complete the destruction of the enemy, and end the war. They seemingly had every advantage of firepower, initiative, and momentum. It is difficult to fault their logic despite history. They were winning. Unfortunately, they were winning against the NKA, not the Chinese. A better appreciation of some of the risk factors being incurred may have altered X Corps' maneuver enough so that it could have shattered the Chinese attacks more than it did and still achieve retain the capability to achieve its purpose.

III. CHINESE PEOPLE'S VOLUNTEER ARMY, NOVEMBER 1950

A. Narrative

The task facing Marshall Peng Dehuai and the Chinese People's Volunteer Army (CPV) in late 1950 was a daunting one. The CPV was an underequipped, largely uneducated, peasant army tasked with defeating the most modern military force in the world over harsh terrain in the dead of winter. The CPV would be outgunned, subject to constant air attack, and severely under supplied. The army rank and file consisted largely of former Chinese Nationalist soldiers that had been assimilated in to the ranks during the recently concluded Chinese Civil War. The Chinese decision to fully enter the Korean War against the U.N. risked everything won during the civil war. Complete destruction of the CPV could cause uprisings, a return of the Chinese Nationalist forces, or could cause the U.N. to carry the war north of the border in to China proper. With so

much at stake, how could the Chinese expect to win and how would they fight with seemingly every advantage already ceded to the enemy?[58]

The Chinese planned to mitigate the risk through a combination of deception, maneuver, and by playing to the strengths of their army and away from the strengths of the U.N. forces. The Chinese way of warfare based on the teachings of Sun-Tzu, interpreted through Chairman Mao, and battle tested against the Japanese and the Nationalists formed the foundation of the campaign against the U.N. forces.

Strategic and operational maneuver, a concentration on preparation before battle, the use of terrain, and deception characterize the Chinese way of warfare.[59] These tenets all contribute to a Chinese propensity in warfare toward patience and focus on strategic and operational goals, not tactics. Understanding the enemy and how he will fight is also a major theme of Chinese warfare. The oft quoted "Thus it is said that one who knows the enemy and knows himself will not be endangered in a hundred engagements," offers a useful commentary on risk. [60] The focus on understanding the enemy capability and the capability of one's own forces mitigates a great deal of risk. The Chinese expended energy and lives to gain understanding of the U.N. forces. The tenets of the Chinese way of warfare are explicit in the planning and execution of the CPV offensives in Korea.

The strategic goals of China in Korea stated by Chairman Mao were "resist America, aid Korea, defend the country, and safeguard the home."[61] These goals reveal the level of risk to China and the threat Mao thought the U.N. posed. The newly formed communist China had to

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[58]Spurr, 168-171.

[59]Sun-tzu, 128-40.

[60]Ibid., 179.

[61]Xiaobing Li, *A History of the Modern Chinese Army* (Lexington, KY: The University Press of Kentucky, 2009), 79.

resist the capitalist armies on the world stage. The action was to safeguard the revolution and send a psychological message to the rest of the world that the new China was a legitimate power. The purpose of war as a basis for legitimacy and a galvanizing force for a nation is directly from Sun-Tzu.[62]

The strategy of China and its ability to execute that strategy depended on China's relationship with the Soviet Union. Mao understood that only with Soviet assistance with equipment and ammunition could the CPV close the firepower gap with the U.N. forces and have any chance of actively resisting the American airpower. Closing the gap would become necessary if China had to fight a protracted war. To that end, Mao engaged Stalin with his assessment of the goals in Korea and the ability of the Chinese in executing the campaign.[63] China clearly lacked the power to engage the United States in general war and had to plan for more limited operational goals.

Mao described the operational goals for Korean intervention as elimination or defeat of U.S. troops in Korea, reestablishment of North Korea, and preventing general war against China. Mao described failure as a military stalemate resulting in a general declaration of war on China by the U.N. forces.[64] The initial concept of the operation in the summer and fall of 1950 was a strategic and operational defensive.in order to build up combat power and materiel.

The CPV that would fight in Korea was long on experience, but woefully short of equipment and supplies. The majority of the equipment was captured Japanese and U.S. weaponry of various calibers and types. The infantry were equipped with a variety of light machine guns, rifles, and grenades. Wheeled transport was almost non-existent and most Chinese

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[62]Sun-Tzu, 167.

[63]Li, 78-80.

[64]Zhang, 78-80.

Armies had around 36 artillery pieces and no armor.[65] The CPV was however, very experienced and battle tested. The CPV drew its troops from the best field armies in in China, the Third and Fourth. These formations had endured the worst of the fighting against the Nationalists. The officers and non-commissioned officers were highly experienced and motivated. The force that slipped in to north Korea in the fall of 1950 was experienced, not supply intensive, and uniquely suited to operating in difficult terrain. The light infantry force was also mush easier to conceal from aerial observation than a mechanized one. The defense would accomplish this initial goal and fit the current situation allowing the Chinese to retain most of North Korea.

B. Guidance

The campaign Mao and Peng decided on was a five-phase campaign beginning with a massive deception in the form of infiltrating the CPV in to Korea. The CPV would engage the U.N on a limited basis to gauge their strength and get a firm grasp of their tactics. The plan was then to defend along the Pyongyang-Wonsan line to build combat power and allow the NKA to reconstitute. The combined force would then fall back to lure the U.N. forces north before cutting them off and destroying them. The final phase would be to pursue the U.N. forces south.[66]

The defensive course of action was viable because the U.N. had not launched its offensives into northern Korea.[67] The defensive also kept with the Sun-Tzu maxim of assuming the defensive when weaker than the enemy forces. However, Sun-Tzu only recommends the defensive as a means of building power to take the offensive.[68] The operational concept changed

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[65]Ibid.

[66]Ibid., 99 and 109.

[67]Ibid., 87-88.

[68]Sun-Tzu, 183.

when the U.N. force advanced into Korea and the opportunity to encircle and destroy them piecemeal became an option.[69]

The operational guidance issued by Mao Marshall Peng in the X Corps area of operations centered around the encirclement and destruction of 1st Mar Div. Mao and Peng wanted 1st Mar Div engaged and encircled before X Corps could consolidate its lines of communication. The encirclement would cut 1st Mar Div off from supplies and reinforcements. Following the destruction of 1st Mar Div, the strung out Army divisions of X Corps could be encircled and destroyed in detail.[70]

Mao's guidance to Peng was not overly restrictive. Mao took a hand in the operational orientation of the armies, but due to distance and lack of communication, he provided general guidance for actions after contact. Mao ordered Peng to destroy the U.N. forces north of the 38th Parallel rapidly through offensive actions. If the initial offensives failed to decisively defeat the U.N., Mao ordered Peng to engage in a war of attrition that would cause large numbers of casualties and force a political end to the conflict.[71]

Simplicity was a hallmark of Chinese guidance from the strategic to the tactical level. Simplicity reduced the risk of the orders being misunderstood and engendered greater understanding. The Chinese were forced to use simple instructions because of a lack of communications structure. They lacked the radios to coordinate and relied on bugles, flags, and drums for tactical coordination. The Chinese explained the intent, mission and concept of the operation to every soldier in the CPV. In the face of too few communication devices and massive

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[69] Zhang, 110.

[70] Ibid., 112.

[71] Peng Dehuai, *Memoirs of a Chinese Marshal: The Autobiographical Notes of Peng Dehuai (1898-1974)* (Honolulu: University Press of the Pacific, 1984), 472-475.

casualties, getting information to the lowest level became vital for continued operations.[72] Obviously, there is great risk in every soldier having detailed operational information. There is also an opportunity for very flexible operations within the intent and for deception. The prisoners all misidentified their units and this confused the G2 section of X Corps. The reason for this is that the Chinese changed the numbers of their formation once they entered Korea, ostensibly to reflect their "volunteer" status.

C. Operational Reach and Terrain

The CPV had significant operational reach challenges in executing and sustaining operations in Korea. U.N. airpower, the terrain, and lack of mechanized equipment all hindered the Chinese. The traditional manner of logistics in the Communist Chinese forces was to absorb enemy supplies, personnel, and equipment. This technique worked very well during the Chinese Civil War. Many of the foot soldiers that would fight in Korea were former Chinese Nationalists. The technique is also reflected in the numerous types of equipment the Chinese used. Much of their artillery was U.S. equipment captured from the Nationalists. The practice of using captured equipment extended operational reach because in reduced the load on the logistics chain. It also made it much more difficult because so many varied types of ammunition and repair parts were needed.[73]

The Chinese logistics chain from China into Korea was designed to negate the effect of U.N. airpower. Most of the movement took place in hours of darkness. Much of the traffic was on

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[72]Headquarters X Corps G-2 Section, 20-21. GEN Almond and GEN Smith both found the Chinese prisoners captured on 25 November to have highly detailed information on the mission and intent of their corps and army level headquarters. The prisoners, all privates, identified their divisions and armies and their intent.

[73]Charles R. Shrader, *Communist Logistics in the Korean War* (Westport, CT: Greenwood Press, 1995), IV.

easily concealable modes of transport such as people or pack animals. The freezing of the rivers in northern Korea aided resupply because the rivers could be crossed despite the U.N. airpower destroying all the bridges. These precautions did not make for an effective supply chain though. Sustaining even a lightly equipped, but huge infantry force in the northern Korean winter proved almost impossible. Huge numbers of Chinese froze or starved to death during the campaign.[74]

The Chinese knew they would sustain many casualties in the campaign and would have to continuously rotate forces to maintain the offensive. The problems with the logistics severely limited the Chinese ability to continue the offensive past the first weeks. The Chinese rapidly reached the extent of their operational reach as the U.N forces consolidated their defense near the 38th Parallel.

D. Assessment of Enemy

The Chinese had the advantage of being able to observe and assess their enemy for months prior to their first offensive. The assessment of the U.N forces was that they were a mechanized, road bound, position oriented force that did not fight well at night.[75] The U.N. forces were completely dependent on external supplies that had to be brought up by vehicles. Their firepower was overwhelming at the tactical level. The air power of the U.N. was overwhelming and unchallenged.

The CPV used deception as an integral part of all of its operations and opened its campaign with a massive infiltration in to Korea. Deception is deeply rooted in the Chinese psyche and way of war. The Chinese do not treat deception as an operation, but as a form of maneuver, that sets the conditions for all other actions. Sun-Tzu described warfare as the way of

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[74]Spurr, 265-269.

[75]Zhang, 76-77.

deception.[76] Deception in the case of the CPV was also a form of risk mitigation. Peng recognized the overwhelming advantage the U.N. had in its airpower. U.N. airpower had the ability to defeat his entire force by isolating it and killing large formation before they made it to combat.[77]

The CPV practiced deception on the operational and tactical level. The operational deception drove the initial maneuvers of the CPV as it infiltrated and advanced in to Korea. The movement of thousands of Chinese soldiers was accomplished almost exclusively during the hours of darkness.

In order to negate the advantages of the U.N. forces and attack their vulnerabilities, the Chinese decided to attack the supply lines of the U.N. forces. The encirclement attacks took place simultaneously along the depth of X Corps' axis of advance.[78] The intent was to get as many CPV units in amongst the X Corps units to disrupt the flow of supplies and reinforcements and to make airstrikes difficult. The maneuver was enabled by the Chinese use of the terrain. Where X Corps saw no go terrain, the Chinese saw avenues of approach everywhere for their massive infantry attacks.

E. Self-Knowledge

The Chinese were intimately familiar with the capabilities and limitations of their formations. They had been fighting with these same organizations since the end of World War II. The Chinese had studied in great depth the effects of U.N. airpower on the battlefield and how it would affect their own ability to maneuver. The Chinese came to the realization that they would have to hide the bulk of their forces during the day and operate primarily at night. The other

[76]Sun-Tzu, 168.

[77]Zhang, 109.

[78]See Appendix A.

technique adopted by the Chinese was to stop moving whenever aircraft were present during the day.[79] These simple deceptions had profound effects on the ability of U.N. airpower to interdict the Chinese early in the campaign. The number of sorties flown by the USAF increased dramatically during November 1950, but the Chinese deception neutralized much of the airpower capability.[80]

The critical capability of the massive Chinese infantry formations was their ability to sever the X Corps lines of communication and maintain pressure across a broad front. The critical requirement for the Chinese to keep up the pressure was deception and maneuver. The Chinese aptitude for deception and ability to stay close to the enemy enabled them to not culminate in the face of U.N. air and firepower. The Chinese were vulnerable to their forces becoming desynchronized and the firepower of the U.N.

The Chinese used simple instructions passed to all levels for coordination and synchronization. The technique works to an extent initially. The system fails and incurs a large amount of risk when the situation changes and a shift in focus is required.

F. Phasing and Transitions

The Chinese did a masterful job of managing their initial transition into the offensive, but failed to manage the pursuit of X Corps back to Hungnam. The initial operational plan of luring the U.N. forces and X Corps in particular deep into northern Korea succeeded. The opening offensives against Eighth Army and X Corps could also be considered a success. The operational concept of maneuver through deception and encirclement worked exceedingly well. The problems arose when the Chinese had to reorient to attack further south and shift the focus.

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[79]Zhang, 100.

[80]Billy C. Mossman, *The Effectiveness of Air Interdiction During the Korean War* (U.S. Army Center for Military History, March 1966), 2-3. http://www.history.army.mil/documents/ 237ADH.htm.

The Chinese plan neutralized the X Corps advantages to a large extent. The Chinese risk mitigation could not account for the resiliency of 1st Mar Div or the toll air power would take on their formations. The Chinese could not reorient their forces because of the massive casualties they sustained and an inability to conduct timely command and control of their forces.[81] The command and control system became a critical vulnerability.

G. Conclusion

The initial risk accounting by the Chinese and their mitigation was very effective. Much like X Corps, however, they failed to manage risk as the situation evolved and new contingencies occurred. The Chinese way of warfare stresses preparation as being more important than the combat itself.[82] Mao and Marshall Peng knew the enemy they faced and the capability of their own forces. They understood the risks and did everything they knew to mitigate the risks. The inability to rapidly adapt doomed the initial offensives to failure. 1st Mar Div was not destroyed and the U.N. forces were able to stabilize the front. The Chinese did not achieve all their strategic goals, but they did maintain a buffer and forced the ceasefire that is still in effect today.

IV. CONCLUSION

X Corps was boarding transports in Hungnam harbor. The units streamed in from the north back on to landing craft that would take them out to ships for movement south. It was early December 1950 and Christmas was coming, but X Corps would not be home for it. Reporters called their retreat and the defeat of Eighth Army in the west the worst U.S. military debacle

[81]Chinese losses during the Chosin Campaign vary widely but are estimated to have been approximately 40,000 due to direct combat. The number of noncombat losses has never been properly accounted for.

[82]Sun-Tzu, 135.

since Pearl Harbor.[83] Through a brilliant recovery however, the X Corps staff stopped reacting to the situation and started planning again. The result was saving the bulk of X Corps and its equipment to fight another day. The planning was only part of the story. The main reason X Corps survived was the tenacity and firepower the tactical units brought to bear. The Marines of First marine Division and the soldiers of the 3rd and 7th Infantry Divisions fought an incredible rearguard action through hellish conditions. The tenacity of those units and a constant blanket of airpower kept X Corps from annihilation. The same factors X Corps relied on to mitigate risk ultimately saved it from destruction. Saving X Corps from destruction however did not meet the strategic or operational goals of the war and campaign though. While X Corps fought brilliantly during its retreat, it ceded the strategic and operational initiative to China. The X Corps planning staff disregarded its own doctrine at the direction of its commander. The staff clearly understood the amount of risk it was assuming by moving its units out of supporting distance, not maintaining an adequate reserve, and by operating over one line of communication. The staff could not communicate any of that risk to the commander. Firepower, aggression, and attacking to maintain the initiative were the order of the day. While U.S. doctrine has evolved to incorporate risk, it still lacks clarity in how it relates to operations. Risk must be part of the decision support matrix and understood in terms of failure to achieve overall purpose beyond only the tactical and military purposes.

Understanding risk at the operational level of warfare is difficult. The linkage between strategic goals and tactical actions requires depth of understanding to master. The understanding of risk has evolved as the operational level of war has evolved. The United States military has always understood risk but has only had traditional answers. The U.S. military, while priding

[83]Montross and Canzona, 334.

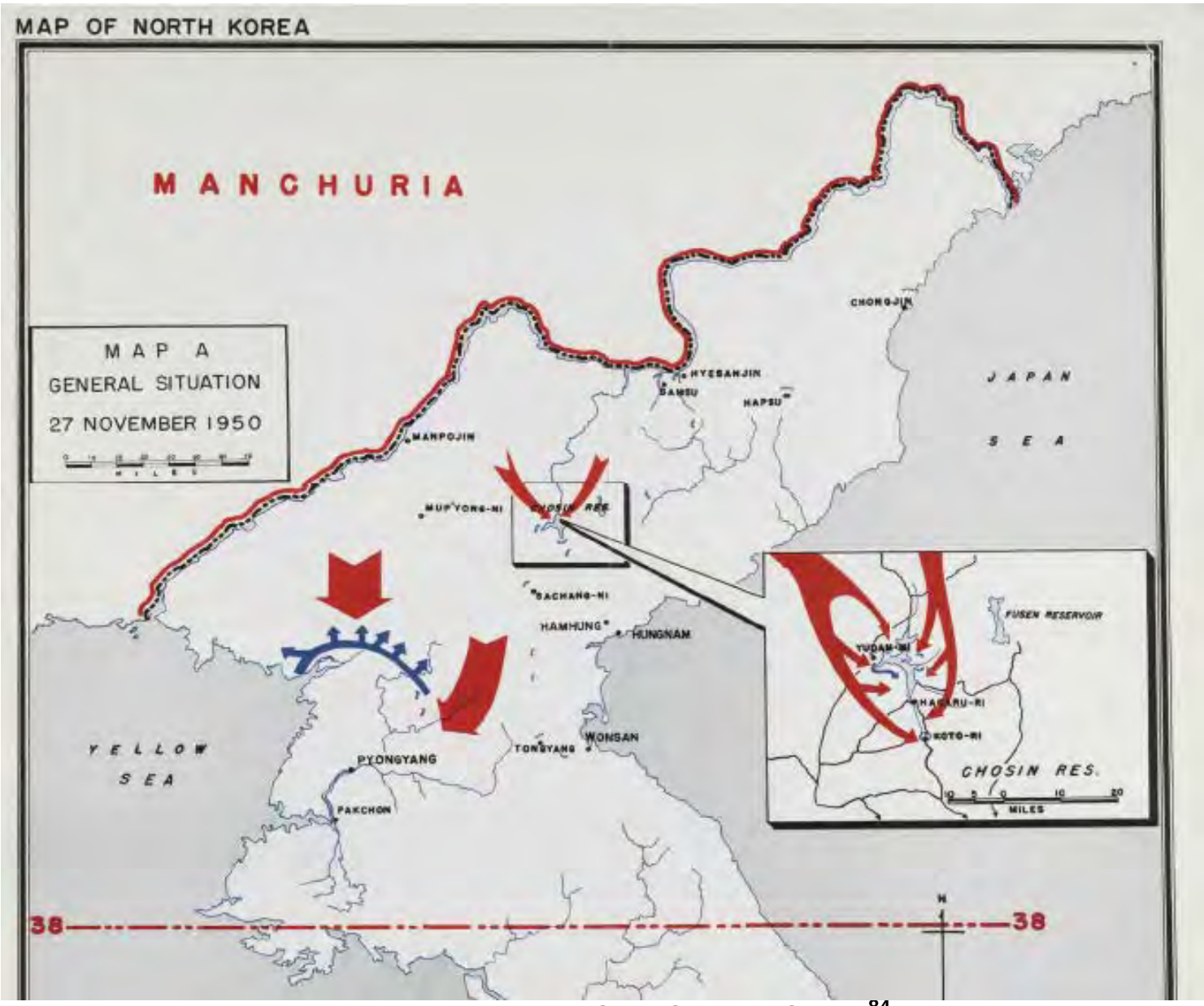
itself on innovation, initiative, and maneuver, has actually relied almost solely on mass, attrition, and firepower to account for risk. The answer for X Corps in Korea was to rely on firepower. The answer for the Chinese was deception, maneuver, and preparation. X Corps misunderstood the risks and the Chinese were not able to adapt rapidly enough. The lessons of a large mechanized force reliant on the assumptions overwhelming logistics and air supremacy are still applicable in today's environment.

The vulnerabilities in the U.S. way of warfare are the underlying assumptions of ever - present logistics and air supremacy. The enemy will understand these vulnerabilities and risk incurred by them. There is a great deal to be said for aggression, firepower, and an ethos of annihilating the enemy through offensive action. These traits saved X Corps. X Corps did not however, achieve its operational purpose of defeating of the NKA and the Chinese. The failure of the X Corps leadership and staff to properly understand the operational risk in relation to their purpose played a large role in their failure.

Operational risk is: the willingness and ability of a commander to understand and accept exposure to potential threats or conditions in order to gain an advantage to achieve operational purpose. The operational risk model is valuable for an operational planner because it relates risk to purpose and integrates operational risk into planning. The specific variables of guidance, operational reach, the enemy, self-knowledge, and phasing and transitions when seen in the context of purpose give a far greater depth of understanding. The key to the model is the interactions between the variables and understanding how they change over time. The model is not intended to give an answer, but to foster discourse between the commander and staff. The result is a greater understanding of operational risk and the assumptions being made in each of the variables. The model is iterative and needs to be thought through every time a variable changes to stay relevant throughout planning and execution. The more important task than understanding

risk is translating the conceptual idea of operational risk into an executable plan. Detailed planning relies on conceptual planning for direction; the operational risk model can help provide that direction to planners.

APPENDICES



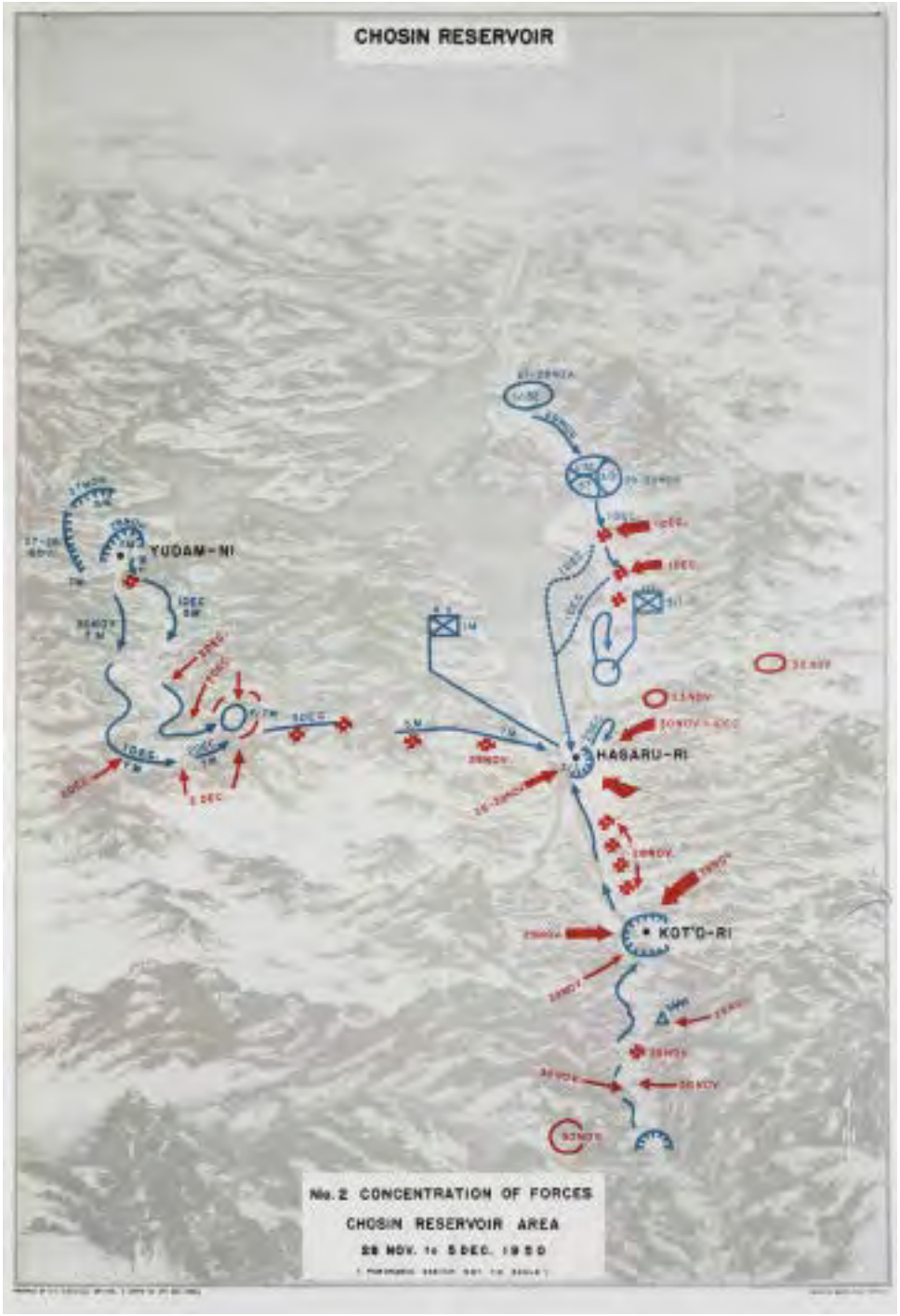
APPENDIX A: MAP OF NORTH KOREA[84]

[84] Headquarters X Corps Command Report, "Special Report on Chosin Reservoir, 27 Nov to 10 Dec 50. 9."

APPENDIX B: MAP OF NORTH CENTRAL KOREA[85]

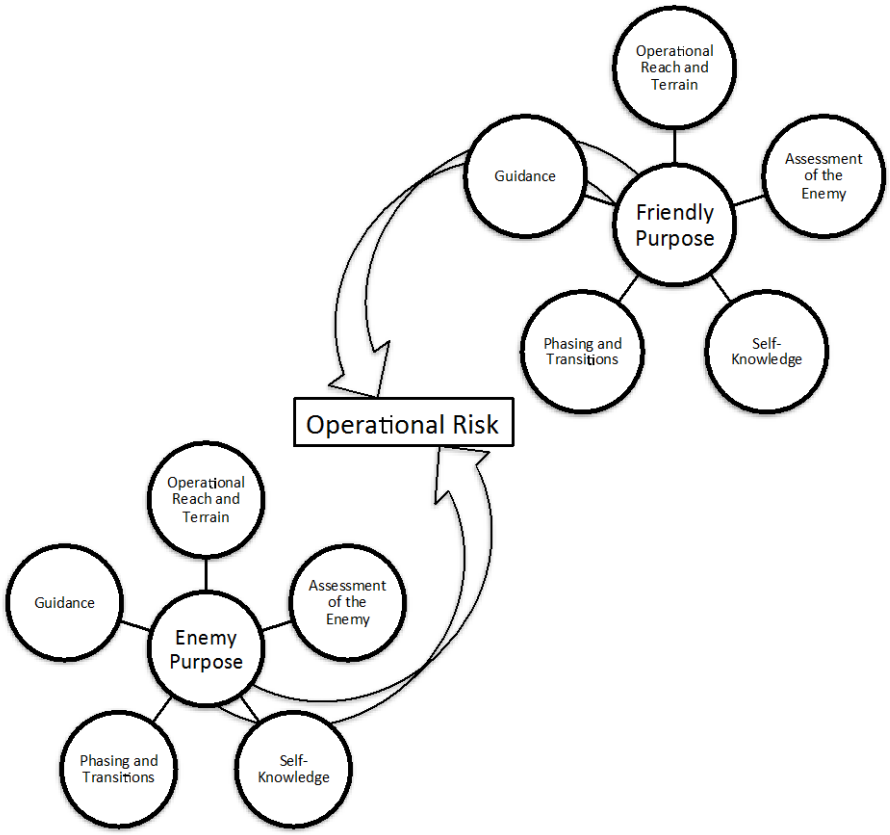
[85]Ibid.

APPENDIX C: CHOSIN RESERVOIR[86]



[86] Ibid.

APPENDIX D: OPERATIONAL RISK MODEL



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